

Listing of the Claims:

1. (Currently Amended) A method of detecting whether an antibody directed against a GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b ganglioside is present in a subject comprising:
  - (a) contacting a liquid sample from the subject with the GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b ganglioside, the ganglioside being affixed by passive adsorption of a  $\text{Ca}^{++}$  salt of the ganglioside to at least two separate solid particles, under conditions permitting the antibody if present in the sample to form a complex with the ganglioside, which complex comprises the solid particles; and
  - (b) detecting any complex formed in step (a), wherein detection of the complex indicates the antibody directed against the ganglioside is present in the subject.
2. (Currently Amended) A method of detecting in a subject whether two different antibodies, each of which antibodies is directed against a different ganglioside, are present comprising:
  - (a) contacting a liquid sample from the subject with one a first ganglioside, the first ganglioside being affixed by passive adsorption of a  $\text{Ca}^{++}$  salt of the first ganglioside to at least two separate solid particles, under conditions permitting the antibody directed against said the first ganglioside if present in the sample to form a complex with the first ganglioside, which complex comprises the solid particles;
  - (b) contacting the liquid sample with a different second

ganglioside, the different second ganglioside being affixed by passive adsorption of a  $\text{Ca}^{++}$  salt of the different second ganglioside to at least two separate solid particles, under conditions permitting the antibody directed against the different second ganglioside if present in the sample to form a complex with the different second ganglioside, which complex comprises the solid particles; and

- (c) detecting any complex formed in step (a) and any complex formed in step (b), wherein the detection of complexes formed in both step (a) and step (b) indicates the two different antibodies are present in the subject.
3. (Original) The method of claim 2, wherein steps (a) and (b) are performed simultaneously.
4. (Currently Amended) The method of claim 2, wherein the solid particles having affixed thereto the one first ganglioside are of the same color, and the solid particles having affixed thereto the different second ganglioside are each of the same color but of a different color from the solid particle to which the one first ganglioside is attached.
5. (Canceled).
6. (Canceled).
7. (Currently amended) A method of quantitatively determining which amount, if any, of a predetermined antibody directed against a GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b ganglioside is present in a subject comprising:

Applicant: Norman Latov et al.

Serial No.: 10/088,775

Filed: March 20, 2002

Page 4

- (a) contacting each of a plurality of liquid samples from the subject with a predetermined amount of the GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b ganglioside affixed by passive adsorption of a  $\text{Ca}^{++}$  salt of the ganglioside to at least two separate solid particles, under conditions permitting the antibody if present in the sample to form a complex with the ganglioside, which complex comprises the solid particles; and
- (b) detecting in each sample any complex formed in step (a), and correlating the detection of the complex in each sample with a predefined reference standard so as to quantitatively determine which amount of the antibody is present in the subject.

8. (Previously Presented) The method of claim 7, wherein each of the plurality of liquid samples comprise a different amount as a result of predetermined dilution and the predetermined amount of ganglioside used to contact each sample is the same.

9. (Previously Presented) The method of claim 7, wherein the predetermined amount of ganglioside used to contact each sample is different.

10. (Previously Presented) The method of claim 1, 2, or 7, wherein the liquid sample is or is derived from human serum, plasma, saliva, tears, mucosal discharge, urine, peritoneal fluid, cerebrospinal fluid, lymphatic fluid, bone marrow, tissue, lymph nodes or culture media.

11. (Previously Presented) The method of claim 1, 2, or 7, wherein the solid particles comprise polystyrene latex.

Applicant: Norman Latov et al.  
Serial No.: 10/088,775  
Filed: March 20, 2002  
Page 5

12. (Previously Presented) The method of claim 1, 2, or 7, wherein the solid particles comprise carbon.
13. (Canceled).
14. (Currently amended) The method of claim 1, 2, or 7, wherein the ganglioside is GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b.
15. (Currently amended) The method of claim 1, 2, or 7, wherein the ganglioside comprises total brain ganglioside extract.
16. (Previously Presented) The method of claim 15, wherein the extract is from a bovine source.
17. (Currently amended) The method of claim 1, 2, or 7, wherein the ganglioside comprises a tissue ganglioside extract.
18. (Previously Presented) The method of claim 1, 2, or 7, wherein the antiganglioside antibody is an autoantibody.
19. (Previously Presented) The method of claim 1, 2, or 7, wherein the antiganglioside antibody is an anti-GM1, anti-GM2, anti-GM3, anti-GD1, anti-GD2, anti-GD3, anti-GD1a, anti-GD1b, anti-GT1b or anti-GQ1b antibody.
20. (Previously Presented) A method of diagnosing whether a subject is suffering from an autoimmune neuropathy, comprising quantitatively determining the amount, if any, of a predetermined antibody directed against a predetermined ganglioside is present in the subject comprising:

(a) contacting each of a plurality of liquid samples from the subject with a predetermined amount of the ganglioside affixed by passive adsorption of a  $\text{Ca}^{++}$  salt of the ganglioside to at least two separate solid particles, under conditions permitting the antibody if present in the sample to form a complex with the ganglioside, which complex comprises the solid particles; and

(b) detecting in each sample any complex formed in step (a), and correlating the detection of the complex in each sample with a predefined reference standard so as to quantitatively determine which amount of the antibody is present in the subject, wherein the presence of a predefined amount of the predetermined antibody indicates that the subject is suffering from an autoimmune neuropathy.

21. (Previously Presented) The method of claim 20, wherein each of the plurality of liquid samples comprise a different amount as a result of predetermined dilution and the predetermined amount of ganglioside used to contact each sample is the same.

22. (Previously Presented) The method of claim 20, wherein the predetermined amount of ganglioside used to contact each sample is different.

23. (Previously Presented) The method of claim 20, wherein the subject is suffering from Celiac disease.

24. (Previously Presented) The method of claim 20, wherein the autoimmune neuropathy is Guillain-Barré syndrome, a Guillain-Barré syndrome variant, a peripheral neuropathic

disease, or a multifocal motor neuropathy.

25. (Previously Presented) The method of claim 20, wherein the ganglioside is GM1.
26. (Previously Presented) The method of claim 20, wherein the ganglioside is GD1a.
27. (Previously Presented) A method of determining if a subject is predisposed to become afflicted with an autoimmune neuropathy comprising:
  - (a) contacting each of a plurality of liquid samples from the subject with a predetermined amount of a ganglioside affixed by passive adsorption of a  $\text{Ca}^{++}$  salt of the ganglioside to at least two separate solid particles, under conditions permitting a predetermined antibody if present in the sample to form a complex with the ganglioside, which complex comprises the solid particles; and
  - (b) detecting in each sample any complex formed in step (a), and correlating the detection of the complex in each sample with a predefined reference standard so as to quantitatively determine which amount of the antibody is present in the subject, wherein the presence of a predefined amount of the antibody indicates that the subject is predisposed to become afflicted with an autoimmune neuropathy.
28. (Previously Presented) The method of claim 27, wherein each of the plurality of liquid samples comprise a different amount as a result of predetermined dilution and the predetermined amount of ganglioside used to contact each sample is the same.

Applicant: Norman Latov et al.  
Serial No.: 10/088,775  
Filed: March 20, 2002  
Page 8

29. (Previously Presented) The method of claim 27, wherein the predetermined amount of ganglioside used to contact each sample is different.
30. (Previously Presented) The method of claim 27, wherein the autoimmune neuropathy is Guillain-Barré syndrome or a Guillain-Barré syndrome variant.
31. (Previously Presented) The method of claim 27, wherein the autoimmune neuropathy is a peripheral neuropathic disease.
32. (Previously Presented) The method of claim 27, wherein the autoimmune neuropathy is a multifocal motor neuropathy.
33. (Previously Presented) The method of claim 27 wherein the subject has Celiac disease.
34. (Previously Presented) The method of claim 33, wherein the antibody is directed against the ganglioside GM1.
35. (Previously Presented) The method of claim 33, wherein the antibody is directed against the ganglioside GD1a.